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10/597,927

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Roelof Thiewes

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CROMPTON, SEAGER & TUFTE, LLC  
1221 NICOLLET AVENUE  
SUITE 800  
MINNEAPOLIS, MN 55403-2420

EXAMINER

PRICE, CARL D

ART UNIT

PAPER NUMBER

3749

MAIL DATE

DELIVERY MODE

11/23/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/597,927	<b>Applicant(s)</b> THIEWES ET AL.	
	<b>Examiner</b> Carl D. Price	<b>Art Unit</b> 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION****Response to Arguments**

Applicant's arguments with respect to amended and previously presented claims **14-34** and newly added claims **35-36** have been considered but are moot in view of the new ground(s) of rejection.

Applicant has amended the claims to be of a scope not previously considered. Consistent with applicant's argument that the prior art relied on in the previous office action fail to show, disclose and/or teach certain aspects of applicant's invention now recited in the claims filed on **06/30/2009**, applicant has amended the claims to include at least the following:

**14. (Currently Amended)**

A mixing device for mixing gas and combustion air  
for a gas burner, ~~it being possible for a mixture of gas and combustion air that is  
provided by the mixing device to be fed to the gas burner by means of a blower, said  
mixing device~~ comprising:

a housing; and

a venturi nozzle, wherein the venturi nozzle is integrated in the housing in such a way that the housing and the venturi nozzle are formed as a monolithic unit.

In response to the prior art of record cited in the previous examiner's action and in support of the scope of the invention now presented in the amended claims, applicant argues the following:

With regard to claim 1:

"Applicants do not believe it can readily be argued that the feature "the housing and the venturi nozzle are formed as a *monolithic* unit" is *necessarily* present in DE 197 33 768. Nor would there appear to be any reason or motivation to modify DE 197 33 768 to arrive at the mixing device of claim 1. For these and other reasons, claim 14 is believed to be clearly patentable over DE 197 33 768. For similar and other reasons, claim 16 which depends from claim 14 and includes significant additional distinguishing features, is also believed to be clearly patentable over DE 197 33 768."

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With regard to claim 26:

“For reasons similar to those discussed above with respect to claim 14, as well as other reasons, claim 26 is believed to be clearly patentable over DE 197 33 768. DE 197 33 768 does not appear to teach each and every element of claim 26, in at least as much detail as is contained in claim 26. For example, DE 197 33 768 does not appear to teach "wherein the venturi nozzle is integrated in the housing in such a way that the housing and the venturi nozzle are formed as a *monolithic* unit..." as recited in claim 26. For the foregoing and other reasons, claim 26 is believed to be clearly patentable over DE 197 33 768. For similar and other reasons, claims 27 and 28 which depend from claim 26 and add signification additional distinguishing features, are also believed to be clearly patentable over DE 197 33 768.” (Highlighting and Underlining Added)

In response to applicant's arguments the examiner first notes applicant's own description of the meaning of the terms housing and venturi, presented in the application specification and Drawing Figures:

“**Figure 1** shows a mixing device 10 according to the invention in cross section, not only the mixing device 10 according to the invention but also a gas regulating device 11 and a supporting plate 12 of a blower being represented in Figure 1. In accordance with the present invention, **a housing** and **a venturi nozzle** of the mixing device 10 **are formed as an integral**, and **consequently monolithic, unit**. The housing of the mixing device 10 is illustrated in Figure 1 by a reference numeral 13, the venturi nozzle by a reference numeral 14.”

“The monolithic unit comprising the **housing 13** and the **venturi nozzle 14** forms a flow duct for gas and combustion air. At an inlet opening 15 of this flow duct, combustion air can be sucked in. At an opposite outlet opening 16 of the flow duct, the blower with the supporting plate 12 acts, and provides a suction pressure to suck in the mixture of gas and combustion air at the outlet opening 16.” (Highlighting and Underlining Added)

Applicant's Drawing Figure 1:

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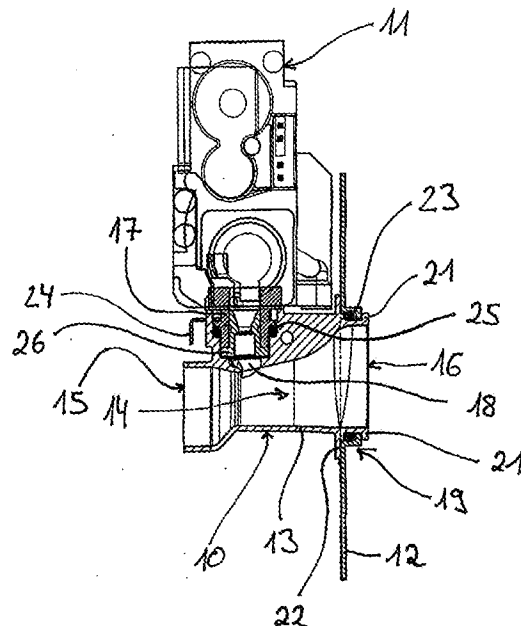


Fig. 1

As seen from applicant's own specification and associated drawing figures the meaning of the term "housing" might at least be defined as the outer surface of the body referenced by reference character "13" (Figure 1), and at most to the physical material or the body of material making up the member generally associated by reference character "13". Similarly, the meaning of the term "venturi" is defined by a contoured passageway referenced by numeral "14" (Figure 1) and located within or passing through the physical material or the body of material making up the member generally associated by reference character "13". In this regard, applicant has described or defined the terms "housing" and "venturi" in a manner no more specific or detailed than the mere mention of each of these terms in the specification and only a direct correlation of the terms with the structure referenced by reference numerals "13" and "14", respectively.

Turning now to applicant's claims, consistent with the scope of the invention described in the specification applicant merely uses the terms "housing" and "venturi" to only broadly define certain aspects of the invention. Further in this regard, applicant is reminded that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Therefore, with respect to the claims, a reasonable broad interpretation of the term "housing"

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would be that of no more than a body of material having no particular shape or form. And, in regard to the claims, a reasonable broad interpretation of the term "venturi nozzle" would be no more than a contoured passage having a portion having a diameter defining a restriction there along. And, a reasonable broad interpretation of the recitation "the housing and the venturi nozzle are formed as a monolithic unit" would be that of a housing or a body of material having no particular shape or form integrally, or monolithically, formed with a contoured passage having a portion with a diameter defining a restriction there along, or Venturi. Or, stated differently, a monolithic material body or housing or no particular shape or form having a Venturi shaped nozzle or passage formed therein. Or, simple, a Venturi body.

In view of the discussion herein above the examiner maintains that the claims define the invention by structure of such a broad scope that it is indeed met by **DE 197 33 768**, whether one relies on the relatively thick Venturi body of figure 1 or the relatively thin Venturi body shown in figure 2.

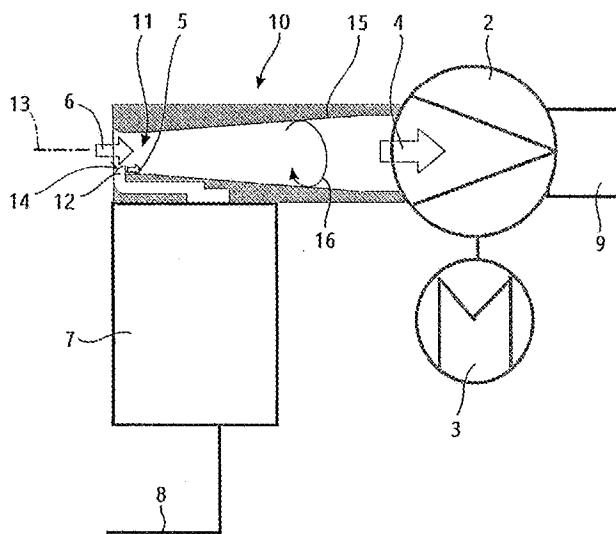


Fig. 1

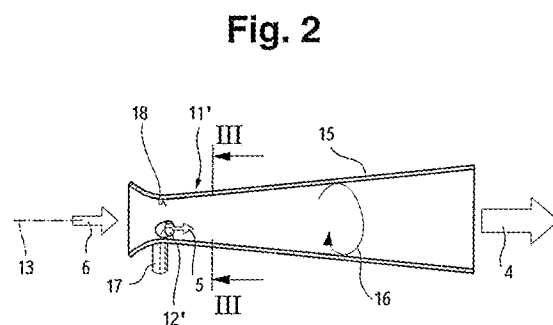
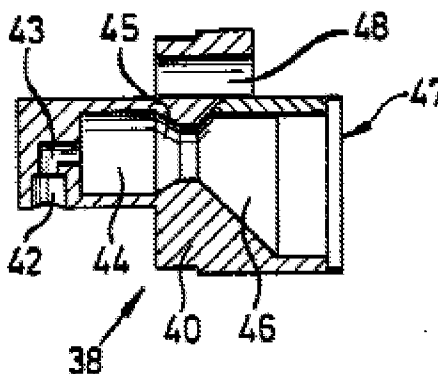


Fig. 2

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In response to applicant's argument(s) directed to the prior art previously relied on, and in response to the scope of the invention now set forth in the presently amended claims, the following examiner's action now additionally relies on the prior art reference of **DE 36 04 314 (Gruber)**. Most notably, with regard to the now claimed invention, **DE 36 04 314 (Gruber)** shows (Figure 5) and discloses a monolithic material body or housing (40, 48) having a Venturi shaped nozzle (44, 46) or passage formed therein.

**FIG. 5**

With regard to the rejection of claims 15, 17, and 18 under 35 U.S.C. §103(a) as being unpatentable over DE 197 33 768 in view of U.S. Patent Application Publication No. 2001/0055709 (Sang) applicants argue:

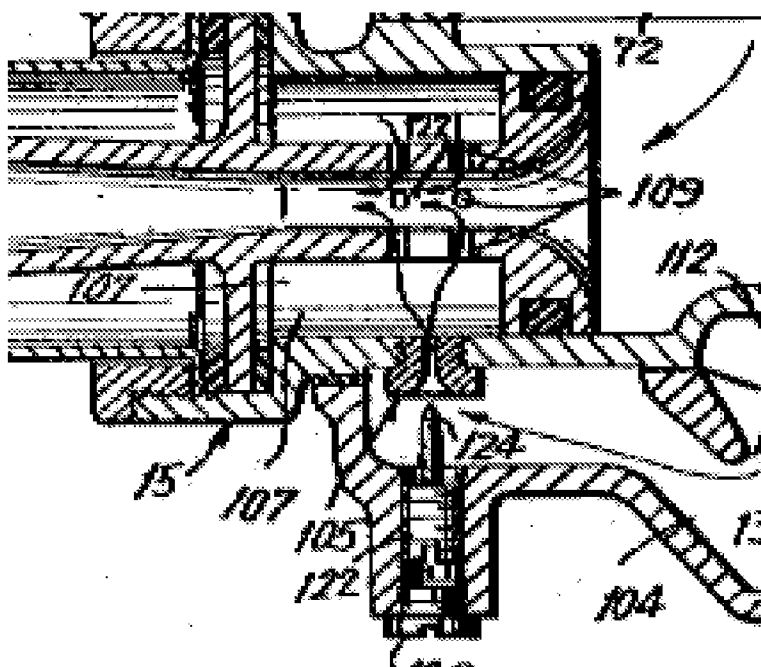
“Applicants further note that while Sang may, as background, disclose that laval or venturi nozzles may be made of plastic, it does not necessarily appear to teach making monolithic nozzles of plastic. Furthermore, the teachings of Sang appear to focus on flow bodies made up of at least a first and a second segment (Abstract), which would appear to teach away from a monolithic construction.” (Highlighting and Underlining Added)

With regard to the teaching of Sang, whether or not the teaching that venturi nozzles may be made of plastic appears in the background discussion does not preclude the use of the explicit teaching under 35 U.S.C. §103(a). Applicant is reminded that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would

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have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case Sang explicitly teaches that venturi nozzles may be made of plastic.

The examiner disagrees with applicant's arguments against US 3468298 (Teague, Jr. et al) regarding claim 34, wherein applicant argues "... claim 34 recites that the gas outlet stub is received by a recess of the gas inlet opening which extends through a side wall of the housing, where the side walls define a venturi nozzle." In this regard the examiner maintains that the passageway defined by the openings 109 and cavity 107 (defined between the radial flanges of the side wall (not referenced)) do indeed form a gas inlet opening defining a recess (107) for receiving a gas outlet stub (15, 107) of a gas regulating device, in the same manner only broadly recited in the claims.



In response to applicant's arguments against the references individually, with respect to claims 19 and 31 and GB 1397536, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).



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Accordingly, while applicant's arguments have been carefully considered, applicant's claims do not patentably distinguish applicant's invention over the prior art of record.

See the examiner's action herein below.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

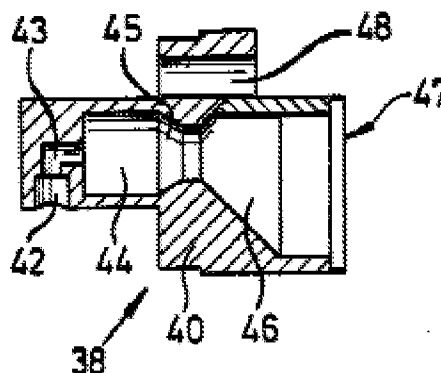
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims Rejected under 35 U.S.C. 102(b)**

**Claims 14** is rejected under 35 U.S.C. 102(b) as being anticipated by **DE 36 04 314 (Gruber)** (newly cited).

**DE 36 04 314 (Gruber)** shows (Figure 5) and discloses a monolithic material body or housing (40, 48) having a Venturi shaped nozzle (44, 46) or passage formed therein.

**FIG. 5**



**Claims Rejected under 35 U.S.C. 102(b)**

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**Claims 14, 16, 26, 27 and 28** are rejected under 35 U.S.C. 102(b) as being anticipated by **DE 197 33 768**.

**DE 197 33 768** shows and discloses shows a mixing device for mixing gas (12) and combustion air (6) for a gas burner (1), it being possible for a mixture of gas and combustion air that is provided by the mixing device to be fed to the gas burner by means of a blower (2), said mixing device comprising:

a housing (10); and

a venturi nozzle (11), wherein the venturi nozzle is integrated in the housing in such a way that the housing and the venturi nozzle are formed as a monolithic unit; and

wherein the monolithic unit forms a flow duct for gas and combustion air, it being possible for combustion air to be sucked in at an inlet opening of the monolithic unit, the blower acting at an outlet opening of the monolithic unit, and the blower providing a suction pressure to suck in the mixture of gas and combustion air through the outlet opening.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### **Claims Rejected under 35 U.S.C. 103(a)**

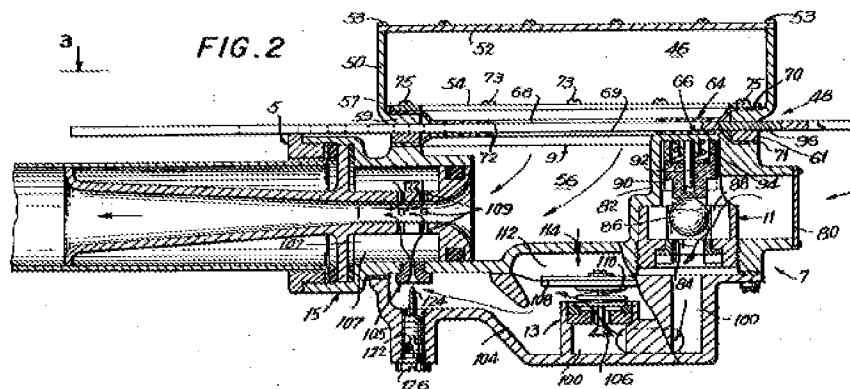
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**Claims 20, 21, 22, 23, 24, 25, 29, 30, 32, 33, 34, 35 and 36** are rejected under 35 U.S.C. 103(a) as being unpatentable over **DE 197 33 768** in view of **US 3468298 (Teague, Jr. et al)**.

**DE 197 33 768** shows and discloses the invention substantially as set forth in the claims with possible exception to:

- a gas regulating device fastened relative to a mixer unit, the gas regulating device including a gas outlet stub that is insertable into a corresponding recess in the monolithic unit

**US 3468298 (Teague, Jr. et al)** teaches, from applicant's same air and fuel gas mixer field of endeavor, a gas regulating device (5) fastened relative to a mixer unit (107, 109), the gas regulating device including a gas outlet stub (105) that is insertable into a corresponding recess in the monolithic unit. **US 3468298 (Teague, Jr. et al)** shows the fastening of the gas regulating device relative to the monolithic unit includes a sealing element (gaskets and ring seals are shown in figure 2; not referenced). **US 3468298 (Teague, Jr. et al)** further teaches a gas-routing duct (109) is configured to introduce fuel gas through an opening that opens out radially into the venturi flow duct.



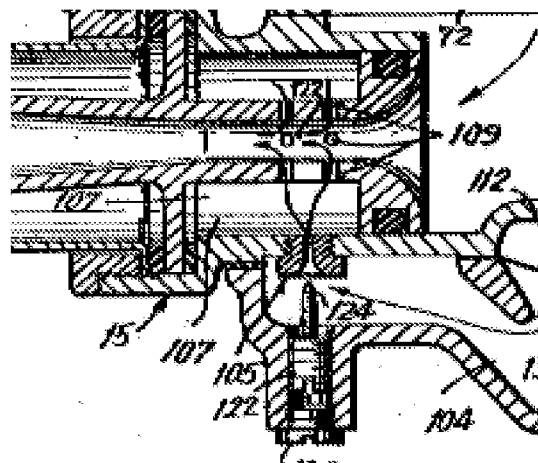
In regard to **claims 20, 21, 22, 23, 24, 25, 29, 30, 32, 33 and 34**, for the purpose of providing a suitable gas supply and control means for the fuel gas flow, it would have been obvious to a person having ordinary skill in the art to modify the fuel supply of **DE 197 33 768** to include a flow regulating device including sealing means in the manner set forth in the claims, in view of the teaching of **US 3468298 (Teague, Jr. et al)**. In regard to claims 22, 30 and 32, the

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threaded fasteners (e.g. – 5, and adjacent numeral 7; figure 2) securing the regulator to the housing are deemed the structural and functional equivalent to applicant's only broadly claimed "quick-acting" closure fastener.

In regard to **claims 23 and 33**, Official Notice is taken that it is known to use quick acting securing clip type conduit flow connectors in the gas burner filed of endeavor for the purpose of easily and readily securing burner feed means. Therefore, in view of that which is well known and for the known purposes, it would have been obvious to a person having ordinary skill in the art to modify **DE 197 33 768** to optionally include a snap clip type fastener to secure the venturi and fuel feed flow connections (see for example: **US 6332773 Kuhn**).

In regard to **claims 35 and 36**, for the purpose of providing an alternative arrangement for introducing the fuel gas into the venturi nozzle, it would have been obvious to a person having ordinary skill in the art to modify **DE 197 33 768** such that the gas-routing duct (12) is configured to introduce fuel gas through an opening that opens out radially into the venturi flow duct, in view of the teaching of **US 3468298 (Teague, Jr. et al)**.



**Claims Rejected under 35 U.S.C. 103(a)**

**Claims 15, 17 and 18** and are rejected under 35 U.S.C. 103(a) as being unpatentable over **DE 197 33 768** in view of **US 2001/0055709 (Sang)**.

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**DE 197 33 768** shows and discloses the invention substantially as set forth in the claims with possible exception to:

- the monolithic venturi unit is formed from plastic.

**US 2001/0055709 (Sang)** teaches, from applicant's same venturi nozzle field of endeavor, that the production of convergent-divergent nozzles, such as so-called laval or venturi nozzles, usually takes place by machining a blank. Irrespective of the material used, **such as metal, ceramic or plastic**, the machining of the convergent-divergent flow cross section is very laborious. Nozzles made of metal are usually produced by a metal-removing operation by turning or eroding. Nozzles made of ceramic may be produced by powder injection molding or sintering, nozzles made of plastic may be produced by injection molding. Particularly for ceramic and plastic nozzles, a complex mold is necessary for this operation, in order to produce the undercut through the convergent-divergent bore.

In regard to claims 15 and 17, for the purpose of providing a suitable material for forming the venturi, it would have been obvious to a person having ordinary skill in the art to make the **DE 197 33 768** of plastic material, in view of the teaching of **US 2001/0055709 (Sang)**. Further, in regard to claims 17 and 18, Official Notice is taken that blower housing are known to be made from metal and to include inlet supporting plates with fasteners, such as threaded bolts, to secure inlet elements thereto (See for example: **US 4830600 (VerShaw et al)**). Therefore, in regard to claims 17 and 18, in view of that which is well known and for the known purpose, it would have been obvious to a person having ordinary skill in the art to provide the blower of **DE 197 33 768** with a metal inlet support plate and "quick" closure fasteners, in the form of threaded bolts.

**Claims Rejected under 35 U.S.C. 103(a)**

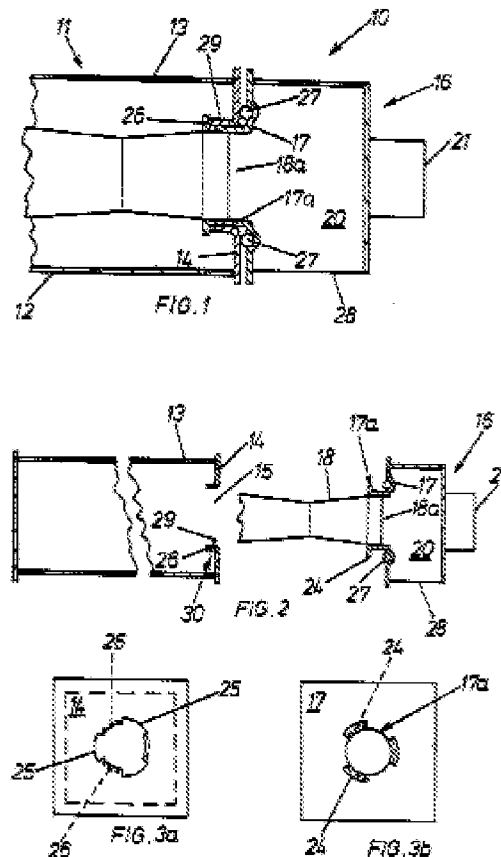
**Claims 19 and 31** and are rejected under 35 U.S.C. 103(a) as being unpatentable over **DE 197 33 768** in view of **US 2001/0055709 (Sang)** or **US 3468298 (Teague, Jr. et al)**, respectively, as applied to claims 18 and 29 above, and further in view of **GB 1397536**.

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**DE 197 33 768** shows and discloses the invention substantially as set forth in the claims with possible exception to:

- the quick-acting closure is formed as a bayonet closure.

**GB 1397536** teaches, from applicant's same gas mixer burner field of endeavor, that it is known to use bayonet type flow joint fasteners as quick connect joint means (17, 24, 25) in gas mixer burners for securing a venturi mixer housing to further burner components (13). **GB 1397536** further uses a seal (27).



In regard to claims 19 and 31, for the purpose of providing a suitable alternative readily and selectively operable fluid joint between the venturi housing and blower housing which requires no tools for operation, it would have been obvious to a person having ordinary skill in

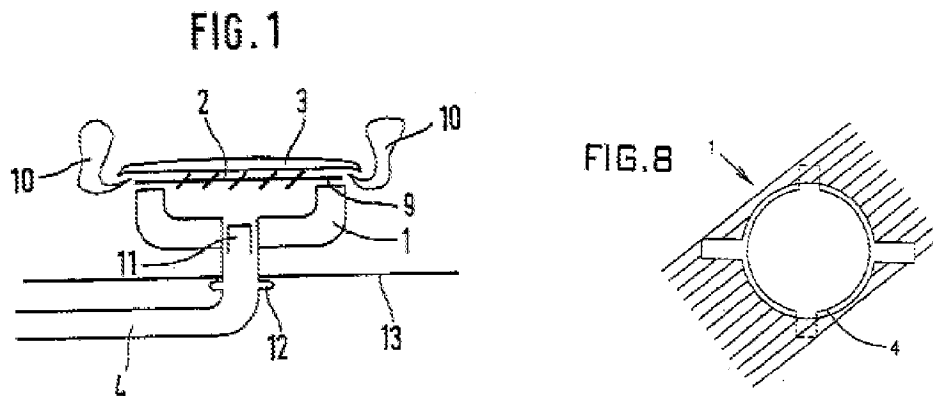
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the art to provide **DE 197 33 768** with a bayonet and seal type flow joint, in view of the teaching of **GB 1397536**.

### Conclusion

See the attached USPTO 892, as well as previously presented USPTO 892 forms, for prior art made of record and not relied upon which is considered pertinent to applicant's disclosure.

**US 5901695 (Deptolla)** teaches, from applicant's same gas mixer burner field of endeavor, that it is known to use bayonet type flow joint fasteners as quick connect joint means (figure 8) in gas mixer burners for securing a venturi mixer housing to further burner inlet components (1). In another embodiment (FIG. 8), the burner head 1 can also be fixed by means of an easily detachable connection, e.g. a bayonette closure, on the mixing pipe.



**GB 2036295** shows a gas burner comprises a body 1 formed by two sheet metal shells 2, 3, joined together by flanges along their margins and shaped to constitute a body of Venturi tube form with an expansion chamber 5 and a chimney tube 6. A bracket 8 is secured to the base 10 of a cooking apparatus and is provided with a flange 9 to locate the burner body. A burner head 7 extends through a central aperture 12 of the bracket 8, the latter being provided with resilient tongues to engage in oblique slots 18 of the head 7 so that the latter is releasably fastened by means of the **bayonet joint type**. Screws 15 engage in nuts 14 secured to the bracket 8 in order to hold a dished ring 16 which engages the upper wall 11 of the cooking apparatus housing. An igniter 13 is secured in a hole in the bracket 8.

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Fig 5

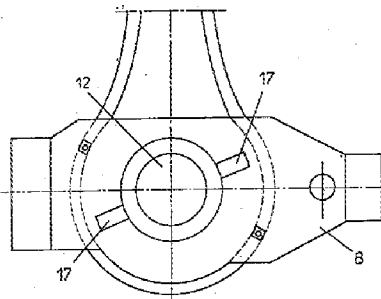
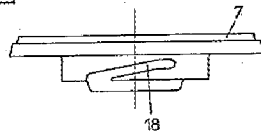
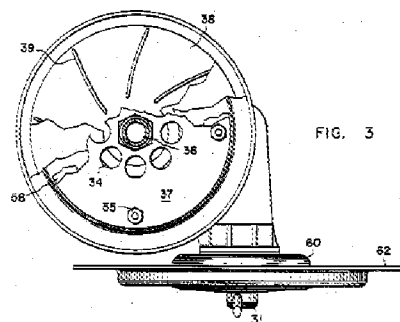
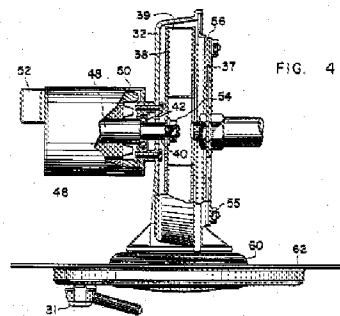


Fig 6



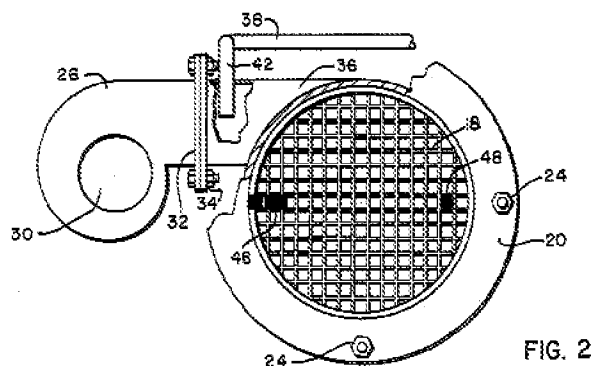
**US 4830600 (VerShaw et al)** shows an mounting plate for a fuel supply means (36) with threaded fasteners (55) on a blower.



**US 4224019 (Dilmore)** shows an mounting plate with threaded fasteners on a blower.



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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

#### **USPTO CUSTOMER CONTACT INFORMATION**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl D. Price whose telephone number is (571) 272-4880. The examiner can normally be reached on Monday through Friday between 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven B. McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Carl D. Price/

Primary Examiner, Art Unit 3749

cp